advanced classes, but though his pupils were not numerous, they were picked men, and the list of those who were trained under him includes not a few of the leading geologists of the country today.

The story is chiefly told by his letters to his favorite brother, William Dwight Whitney—letters which reveal the man without the reserve which usually accompanied hm, and which portray in a very graphic and vivid style much of the history of early geological exploration in this country.

R. T. C.

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*Iowa Geological Survey*, Vol. XIX, Annual Report, 1908. With Accompanying Papers. Des Moines, 1909. Pp. 806, 22 plates, 117 figures.

Coal is the principal topic of this volume. Besides the *Seventeenth Annual Report of the State Geologist*, Professor Samuel Calvin, it contains the following papers: "Mineral Production in Iowa in 1908," by S. W. Beyer, pp. 1–20; "Coal Deposits of Iowa," by Henry Hinds, pp. 21–396; "Fuel Values of Iowa Coals," by F. A. Wilder, with analyses of Iowa coals by James H. Lees and A. W. Hixcon, pp. 397–519; "History of Coal Mining in Iowa," by James H. Lees, pp. 521–88; "Coal Statistics," by S. W. Beyer, pp. 591–97; "General Section of the Des Moines Stage of Iowa," by James H. Lees, pp. 598–604; "The Carboniferous Section of Southwestern Iowa," by George L. Smith, pp. 605–57; "Bibliography of Iowa Coals," compiled by James H. Lees, pp. 659–87; "Peat Deposits in Iowa," by S. W. Beyer, pp. 689–730; "Bibliography of Iowa Peat," compiled by James H. Lees, pp. 731–33; "Flora of Northern Iowa Peat Bogs," by L. H. Pammel, pp. 735–77.

R. T. C.

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*Radioactivity and Geology. An Account of the Influence of Radioactive Energy on Terrestrial History.* By J. Joly. Pp. 287, pls. 6, figs. 4. New York: Van Nostrand Co., 1909.

The discovery of radioactivity has opened the way for quite a new conception of many geologic phenomena. Fresh light has been thrown upon obscure and difficult problems, old explanations have been weakened or displaced, and alternative hypotheses have been framed to explain various phenomena. Radioactivity when first discovered appeared to have its chief interest in the domain of the physicist and the chemist. How vital a rôle it may yet prove to play as an active geologic agent, how wide a range of geologic processes it may yet be found to enter as a decisive